

Application No. 10/748,520
Technology Center 1775
Reply dated November 21, 2007
Submission Accompanying RCE

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Amendments to the Specification:

Please replace paragraph [0031] with the following amended paragraph:

As shown in FIG. 4, ~~FIG. 3~~, article 10 can also include a bond coat layer indicated generally as 18 that is adjacent to and overlies substrate 14. Bond coat layer 18 is typically formed from a metallic oxidation-resistant material that protects the underlying substrate 14 and enables the thermal barrier coating indicated generally as 22 to more tenaciously adhere to substrate 14. Suitable materials for bond coat layer 18 include MCrAlY alloy powders, where M represents a metal such as iron, nickel, platinum or cobalt, or NiAl(Zr) compositions, as well as various Noble metal diffusion aluminides such as nickel aluminide and platinum aluminide, as well as simple aluminides (i.e., those formed without Noble metals). This bond coat layer 18 can be applied, deposited or otherwise formed on substrate 10 by any of a variety of conventional techniques, such as physical vapor deposition (PVD), including electron beam physical vapor

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deposition (EB-PVD), plasma spray, including air plasma spray (APS) and vacuum plasma spray (VPS), or other thermal spray deposition methods such as high velocity oxy-fuel (HVOF) spray, detonation, or wire spray, chemical vapor deposition (CVD), pack cementation and vapor phase aluminiding in the case of metal diffusion aluminides (see, for example, U.S. Pat. No. 4,148,275 (Benden et al), issued Apr. 10, 1979; U.S. Pat. No. 5,928,725 (Howard et al), issued Jul. 27, 1999; and See U.S. Pat. No. 6,039,810 (Mantkowski et al), issued Mar. 21, 2000, all of which are incorporated by reference and which disclose various apparatus and methods for applying diffusion aluminide coatings, or combinations of such techniques, such as, for example, a combination of plasma spray and diffusion ~~diffusion~~ aluminide techniques. Typically, plasma spray or diffusion techniques are employed to deposit bond coat layer 18. Usually, the deposited bond coat layer 18 has a thickness in the range of from about 1 to about 20 mils (from about 25 to about 500 microns). For bond coat layers 18 deposited by PVD techniques such as EBPVD ~~EBPVD~~ or diffusion aluminide

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processes, the thickness is more typically in the range of from about 1 about 3 mils (from about 25 to about 75 microns). For bond coat layers deposited by plasma spray techniques such as APS, the thickness is more typically in the range of from about 3 to about 15 mils (from about 75 to about 385 microns).